

**DIOXIN DERIVATIVES AND METHOD OF MEASUREMENT THEREWITH****Patent number:** EP1256579**Publication date:** 2002-11-13**Inventor:** KODAIRA TSUKASA (JP); YANAIHARA NOBORU (JP)**Applicant:** OTSUKA PHARMA CO LTD (JP)**Classification:****- international:** C07D319/24; G01N33/53**- european:** C07D319/24; G01N33/53F; G01N33/531**Application number:** EP20010904503 20010216**Priority number(s):** WO2001JP01118 20010216; JP20000039914 20000217**Also published as:**

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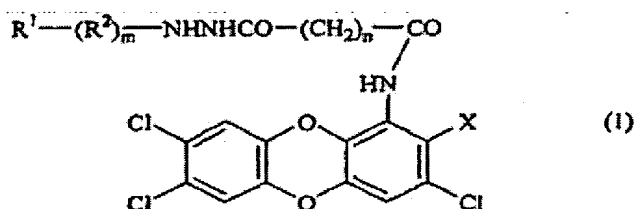
**Abstract of EP1256579**

The invention provides a highly sensitive measurement and detection technique for dioxins, which has advantages inherent to immunoassay; and markers to be used in the technique.

Disclosed are a biotinylated dioxin derivative of formula (1):

<CHEM>

(wherein X represents a hydrogen atom or a chlorine atom; R<1> represents a biotin residue; R<2>'s, which may be identical to or different from one another, independently and individually represent an arginine residue or a lysine residue; n is an integer from 1 to 5 inclusive; and m is an integer from 1 to 3 inclusive), and an immunoassay method for dioxins characterized by using the derivatives as a marker.



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**DIOXIN DERIVATIVES AND METHOD OF MEASUREMENT THEREWITH**Claims of **EP1256579**

1. A biotinylated dioxin derivative of formula (1):

EMI23.1

wherein X represents a hydrogen atom or a chlorine atom; R<1> represents a biotin residue; R<2>'s, which may be identical to or different from one another, independently and individually represent an arginine residue or a lysine residue; n is an integer from 1 to 5 inclusive; and m is an integer from 1 to 3 inclusive.

2. The biotinylated dioxin derivative according to claim 1, wherein X represents a hydrogen atom, n is 4, and M is 2.

3. An immunoassay method for dioxins characterized by comprising using as a marker a biotinylated dioxin derivative of formula (1):

EMI23.2

wherein X represents a hydrogen atom or a chlorine atom; R<1> represents a biotin residue; R<2>'s, which may be identical to or different from one another, independently and individually represent an arginine residue or a lysine residue; n is an integer from 1 to 5 inclusive; and m is an integer from 1 to 3 inclusive.

4. A reagent for immunoassay of dioxins, containing a biotinylated dioxin derivative of formula (1):

EMI24.1

wherein X represents a hydrogen atom or a chlorine atom; R<1> represents a biotin residue; R<2>'s, which may be identical to or different from one another, independently and individually represent an arginine residue or a lysine residue; n is an integer from 1 to 5 inclusive; and m is an integer from 1 to 3 inclusive.

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